Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Evolv Technologies, Inc.	)	File No. _____
	)	
Request for Waiver of Sections 15.35(b) and 15.209(a) of the Commission's Rules to Permit the Deployment of Security Screening Portal Devices Operating in the 24.0-28.8 GHz Range	)	

To: Chief, Office of Engineering and Technology

REQUEST FOR WAIVER

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REQUEST FOR WAIVER

Pursuant to Section 1.3 of the Commission's rules,[1/] Evolv Technologies, Inc. ("Evolv") submits this request for a waiver of Sections 15.35(b)[2/] and 15.209(a)[3/] of the rules, which respectively govern the peak and average permissible power levels of intentional radiators for Part 15 devices. The waiver is necessary so that Evolv can secure approval to market its Edge personal screening system (the "Edge"), a walk-through security screening technology for use in airports and other locations. As detailed below, grant of the waiver is in the public interest—it is consistent with Commission precedent, poses no risk of harmful interference to other authorized operations, and serves a critical public safety function.

I. BACKGROUND

A. Company Overview.

Evolv was founded in 2013 to develop products that utilize high-performance, low-cost sensors to improve physical security. Evolv has over 100 patents and a technical team highly

1/ 47 C.F.R. § 1.3.

2/ 47 C.F.R. § 15.35(b).

3/ 47 C.F.R. § 15.209(a).

experienced in creating screening equipment that works in a wide range of environments. Evolv is currently working with the U.S. Department of Homeland Security ("DHS") Transportation Security Lab ("TSL") under a Cooperative Research and Development Agreement ("CRADA") to develop and deliver products for a range of personnel screening applications. Evolv is under contract with In-Q-Tel to develop screening products for various U.S. government agencies. Additionally, the U.S. Department of Defense ("DoD") – Joint Improvised-Threat Defeat Organization ("JIDO") funded a program to evaluate Evolv's screening product and technology.[4/] Evolv is actively involved in field tests and pilot programs both within the U.S. and around the world.[5/] Evolv also has an active advisory group that includes former leaders from DHS, the Transportation Security Administration ("TSA"), Federal Bureau of Investigation ("FBI"), Central Intelligence Agency ("CIA"), and the New York City Police Department ("NYPD"), as well as relationships with key U.S. government labs. Evolv initially raised over $13 million in venture funding from leading venture capital firms including Gates Ventures, General Catalyst Partners, and Lux Capital. More recently, Evolv has secured its second round of funding of an additional $18 million from top-tier investors such as Gates Ventures, General Catalyst Partners, Lux Capital, and Data Collective VC.

4/ JIDO funded a program through U.S. Army Materiel Command, Night Vision and Electronic Sensors Directorate ("NVESD"), via the Warrior Enabling Broad Sensor Services ("WEBS") contract to evaluate Edge personnel screening product and for related engineering services. Evolv's prime contractor under WEBS is EOIR Technologies (contract #W909MY-12-D-0004/ 0015 and subcontract #S16-01086).

5/ In 2015 and 2016, Evolv tested units at its facility in Waltham, Massachusetts (WH2XRB) and demonstrated the functionality of its product at pilots in the following U.S. locations: the FBI TEDAC Facility in Quantico, Virginia (WH2XRB); Fenway Park in Boston, Massachusetts (WH2XRB); Comerica Park in Detroit, Michigan (WK9XBI); Manchester-Boston Regional Airport in Manchester, New Hampshire (WKXNN); and Union Station in Washington, D.C. (WK9XNN). These demonstrations typically lasted from one to two weeks. Additionally, in 2016, Evolv deployed and tested systems in Paris, France; Rijswijk, the Netherlands; Doha, Qatar; and London, United Kingdom.

B. Evolv Edge Technology.

Recent attacks in the U.S. and in other parts of the world demonstrate that terrorist groups are turning their attention to targets that traditionally have not been afforded the layers of security commonly seen today at airport checkpoints, high-security government buildings, and other critical infrastructure. Such targets include airport terminals, transportation hubs, sports stadiums, office buildings, and special event locations. These areas are of deep concern because there can be large groups of people in a contained area, they are often high-profile locations, and an attack on them can cripple the free flow of people and goods. Some of these environments have very large numbers of visitors, often moving through many different entrances and exits at a fast pace. A security layer designed to prevent mass casualty attacks must balance these operational realities with the need to provide protection.

Today's solutions are either impractical or ineffective at these softer target locations. Walk-through and hand wand metal detectors, as well as security pat-down searches, are slow, require full divestment of items carried on a person, are prone to false alarms, and are ineffective on non-metallic threats. Advanced Imaging Technology ("AIT") portals are too big and too costly to support wide-scale deployment, and they also require full divestment of items carried on a person and are prone to false alarms.

Evolv, supporting the interests of DHS and TSA, has developed the Edge personal screening system to address these shortcomings. The Edge system is purpose-built to maintain the flow of visitors while detecting mass casualty threats. The Edge contains no moving parts, acquires data at near-video frame rates, and does not require the person being screened to pose or raise their arms during the screening process. Additionally, the Edge is about one-third of the cost of today's AITs.

The Edge uses active millimeter wave, magnetic field, and optical sensors to automatically detect mass casualty threats[6/] concealed on people walking through the system one at a time. The Edge automatically issues a decision within 1 to 2 seconds of scan completion and can scan subjects at a rate of 600 people or more per hour. The Edge does not require people to divest personal items, jackets or shoes. It automatically displays red light/green light results, enabling quick and efficient security protocols. Most people pass through the system without signaling a potential alarm. Therefore, the tradeoff between security and the impact on the public is minimal. The system is also small and portable, thereby enabling temporary screening and random protocols.

i. Edge Technology Overview.

The Edge device is a fully electronic, Stepped Frequency Modulated Continuous Wave ("SFMCW"), Synthetic Aperture Radar ("SAR") device operating in the 24.0 to 28.8 GHz band generating 3D holographic data at video frame rates of 30 frames/second. It contains two synthetic apertures operating in parallel and scanning in opposite directions (one looking toward its entrance the other toward its exit). The device is shown in *Figure 1 - Evolv Edge Portal*, below.

6/ Mass casualty threats include non-metallic and metallic suicide vests and belts, as well as semiautomatic and automatic firearms.

Figure 1 - Evolv Edge Portal

The device's fast and fully electronic approach to sampling its synthetic apertures allows it to capture 3D holographic data sets using a very short ~ 0.007 second shutter period (the time required to gather all data necessary to reconstruct a 3D holographic data set). This fast shutter enables walk-through operation with negligible motion blurring of visitors walking at speeds up to 3 meters/second. This mode of operation greatly enhances the general public's interaction with the device. The Edge does not generate or display millimeter wave images and in default operating mode does not save scans or scan related data sets.

Furthermore, the apertures are fully re-sampled once every ~ 0.033 seconds, generating 30 3D holographic data frames/second (entry and exit apertures operate in parallel at these rates). A given aperture consists of an array of four Radio Frequency Printed Circuit Board Assemblies ("RF PCBAs") located in the device's two columns as follows:

Left Top, Left Bottom, Right Top, Right Bottom.

Each RF PCBA further contains an array of twelve transmitting antennas roughly uniformly distributed in an area of ~ 15cm in diameter, and an array of eighteen receiving antennas also distributed in an ~ 15cm diameter area located approximately tangent to the transmitting area.

ii. Scan Timing Details.

A given aperture is scanned as follows:

****

All Transmitters Disabled	*Idle*
Start Scan Event	*(visitor enters scanning zone)*
While visitor in scanning zone	
Get Frame n	*Begin Shutter Period Frame n*
All Transmitters Disabled	
For frequency = step 1 to step 60	
Set Next frequency	*(Step 1 = 24.00 GHz, 80 MHz step size)*
Delay 45us for frequency to settle	
For t = 1 to Transmitter 48	*(4 RF PCBA's x 12 Transmitters / PCBA)*
Enable transmitter t	*(only one transmitter on)*
Integrate Return for 1.41 usec	*(all 4 x 18 = 72 receivers in parallel)*
Sample integrated value	*(all 4 x 18 = 72 receivers in parallel)*
Disable Transmitter t	*(that one transmitter off)*
End Transmitters	
All Transmitters Disabled	
End frequency	
All Transmitters Disabled	*End Shutter Period Frame n*
Delay 26.57 msec	*Sleep until next Shutter Period*
End Frame	
All Transmitters Disabled	
End While	*(get next frame of movie if needed)*
End Scanning Event	*(visitor back frame(s) acquired)*
All Transmitters Disabled	

****

While stepping between frequencies, **ALL** transmitters are disabled until the frequency is fully settled at that step. One, and only one, transmitter is ever enabled at any one time during the entire scanning process. All beamforming (focusing) is done in software after fully sampling the frame. For any stepped frequency, the "ON" transmitter is activated for:

- $\mathbf{T_{1T}}$ = **1.41us** (fundamental measurement integration period)

At any stepped frequency, the combined "ON" time for all 48 spatially diverse transmitters (ignoring the ~ 30 to 60ns time while switching one off and the next on) is:

- **T_{48T} = 67.68us = 1.41us / Transmitter * 48 Transmitters**

The time around the frequency loop is composed of the 45.0us F-settle time with all transmitters disabled plus the T_{48} = 67.68us time with any one transmitter on, for a total of duration of:

- **T_{freq1} = 112.68us = 67.68us (one at a time on) + 45.0us (all disabled)**

The entire shutter period is given by the time to execute the frequency loop 60 times, or:

- **$T_{shutter}$ = 6.76ms = 112.68us / Frequency Step * 60 Frequency Steps**

The total time between frames is given by the shutter period plus the delay before starting the next shutter period, or:

- **T_{frame} = 33.3ms = 6.76ms Shutter Period + 26.57ms Delay Time**

C. Need for Waiver.

Evolv seeks a waiver of the peak and average emission levels in Sections 15.35(b) and 15.209(a) of the Commission's rules.[7/] Section 15.35(b) limits the peak power of unlicensed devices to +20 dB above the corresponding maximum average emission limit specified in Section 15.209.[8/] Section 15.209(a) restricts the transmitted average power at frequencies above 960 MHz to -41.3 dBm EIRP (or equivalently, an electric field strength of 500uV/m at 3 meters). The Commission has stated that the purpose of these rules is to avoid potential harmful interference from a Part 15 device to licensed receivers.[9/] The waiver is necessary because the

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7/ 47 C.F.R. §§ 15.35(b); 15.209(a).

8/ 47 C.F.R. § 15.35(b).

9/ *SafeView, Inc., Request for Waiver of Sections 15.31 and 15.35 of the Commission's Rules to Permit the Deployment of Security Screening Portal Devices that Operate in the 24.25-30 GHz Range*, Order, 21 FCC Rcd. 8814 (OET 2006) ("2006 Waiver Order").

Edge system's peak and average operating power levels exceed those permitted under the Commission's Part 15 rules.

i. Need for Waiver of Section 15.35(b).

Regardless of the frequency or transmitting antenna used, the Edge's EIRP "ON" power level is +1.0 dBm when measured according rule Section 15.31(b) (*i.e.*, with the frequency sweep stopped and the transmitter sweep stopped).[10/] As noted below, this peak power level—which is comparable to that approved by the Commission in its initial *SafeView* decision[11/]—and approved again in its recent extension of authority to SafeView's successor, L-3 Communications Security and Detection Systems, Inc. ("L-3")[12/]—exceeds the Commission's rules for peak permissible power levels of -21.3 dBm EIRP (20 dB above the maximum permissible average power level of -41.3 dBm EIRP) for intentional radiators in this band. The Edge's operating peak power level is required in order to achieve sufficient signal to noise ratios in the fundamental measurements of the system. Accordingly, a waiver of Section 15.35(b) is required.

ii. Need for Waiver of Section 15.209(a).

The average power of any one transmitter within a particular frequency band is determined by that transmitter's "ON" peak power time to its "OFF" time relative to that band. Edge operates at an average EIRP level of -25.92 dBm, +15.4 dB over the -41.3 dBm limit for

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10/ 47 C.F.R. § 15.31(b).

11/ 2006 Waiver Order at ¶ 4 (allowing SafeScout device to transmit with total peak power that is 21 dB higher than the limit).

12/ *L-3 Communications Security and Detection Systems, Inc., Request for Waiver of Sections 15.31(c), 15.35(b) and 15.205(a) of the Commission's Rules to Permit the Deployment of Security Screening Portal Devices that Operate in the 20-40 GHz Range*, Order, DA 16-1075, ET Docket No. 16-45, ¶¶ 14-14 (OET rel. Nov. 22, 2016) (again granting waiver to allow total radiated peak power level up to 41 dB above the maximum permitted average power in Section 15.209(a)) ("2016 Waiver Order").

intentional radiators in this band. The Edge's operating average power level is similarly required in order to achieve sufficient signal to noise ratios in the fundamental measurements of the system and achieve a frame rate consistent with screening people while walking through the device. Accordingly, a waiver of Section 15.209(a) is required.

II. DISCUSSION

In light of the system's benefits to the general public, its minimal risks to any licensees, and its conformance with Commission precedent, Evolv respectfully requests that the Commission: (1) waive Section 15.35(b) to allow Edge to operate at a peak power of +1.0 dBm, or +22.3 dBm over the -21.3 dBm limit; and (2) waive Section 15.209(a) to allow Edge to operate at an average EIRP level of -25.92 dBm, or +15.4 dB over the -41.3 dBm limit.

A. Standard of Review.

The Commission has authority to grant a waiver under Section 1.3 of the rules if the petitioner demonstrates good cause for such action.[13/] Good cause, in turn, may be found and a waiver granted "where particular facts would make strict compliance inconsistent with the public interest."[14/] To make this public interest determination, the waiver cannot undermine the purposes of the rule, and there must be a stronger public interest benefit in granting the waiver than in applying the rule.[15/]

13/ 47 C.F.R. § 1.3. *See also ICO Global Communications (Holdings) Limited v. FCC*, 428 F.3d 264 (D.C. Cir. 2005); *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969).

14/ *Northeast Cellular*, 897 F.2d at 1166; *see also ICO Global Communications*, 428 F.3d at 269 (quoting Northeast Cellular); *WAIT Radio*, 418 F.2d at 1157-59.

15/ *See, e.g., WAIT Radio*, 418 F.2d at 1157 (stating that even though the overall objectives of a general rule have been adjudged to be in the public interest, it is possible that application of the rule to a specific case may not serve the public interest if an applicant's proposal does not undermine the public interest policy served by the rule); *Northeast Cellular*, 897 F.2d at 1166 (stating that in granting a waiver, an agency must explain why deviation from the general rule better serves the public interest than would strict adherence to the rule).

B. Grounds for Waiver.

i. There are Substantial Public Interest Benefits that Justify a Waiver.

The public interest in deployment of the Edge is extremely high. The Edge offers a fast, non-invasive, portable, and cost-effective solution for screening people for concealed metallic and non-metallic threats, including firearms and explosives, where presently the solutions are slow, potentially invasive, inconvenient and limited.

Most solutions, including the current aviation AITs, require individuals to remove their jackets and outer clothing and belts, and to remove all items from their pockets prior to screening. This process is slow and still results in a high rate of false positives and manual pat-downs. These AITs are also expensive and physically large, which limits the potential locations and applications where they can be deployed.

The Edge addresses these problems, screening people with their jacket and outerwear on, personal items in their pockets, as they walk through the unit as they would any normal entranceway. In order to obtain certification, however, regulatory relief is necessary in order to bring these benefits to the public. Evolv respectfully suggests that the extremely high public safety considerations justify the requested waiver.

ii. The Edge Poses Minimal Risk of Harmful Interference.

The Edge limits interference through a variety of means. *First*, as noted above, the Edge is an SFMCW radar and limits the number of steps across the frequency band to 60. *Second*, the overall duty cycle is extremely low. *Third*, the number of transmitters per side (and therefore pointed in a specific direction) is limited to 48. Given the limited number of transmitters, small number of frequency steps, and low duty cycle, the chance for interference, if any, is extremely small. *Finally*, the small footprint and portability allows the unit to be positioned to avoid any

potential interference. Moreover, as demonstrated below, the probability of interference is similar to that which the Commission already approved.

iii. RF Safety Compliance Assurance.

The Edge poses no health risks to the general public or the device's operators based on the basic restriction ("BR") and maximum permissible exposure ("MPE") levels under IEEE safety standards.[16/] The system's +1.0 dBm EIRP peak power level is more than three orders of magnitude below the IEEE's MPE for the general public in this band.[17/]

C. Grant of a Waiver is Consistent with Commission Precedent.

As noted above, the Commission has granted similar waivers of the rules to L-3 so that L-3 could obtain equipment certification for its AIT portal.[18/] In 2006, the Commission found that a waiver of the Part 15 emission limits for L-3's SafeView SafeScout technology was in the public interest.[19/] The Commission reasoned that the waiver would "help improve security procedures at entry checkpoints by ensuring that any concealed dangerous objects are identified, thereby enhancing national security objectives."[20/] The Commission also found that when operated in fixed indoor locations, L-3's SafeView device "would pose very little, if any, potential for harmful interference to licensed operations that are located either indoors or outdoors."[21/]

16/ *See* IEEE International Committee on Electromagnetic Safety, *IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz*, IEEE C95.1-2005 at 23-25, Tables 8 & 9 (Apr. 19, 2006).

17/ *Id.* at 25, Table 9.

18/ *See generally* 2006 Waiver Order; 2016 Waiver Order.

19/ 2006 Waiver Order at ¶ 8. L-3's ProVision screening device is the present-day version of its SafeView SafeScout products.

20/ *Id.*

21/ *Id.* at ¶ 24.

The Commission subsequently renewed and expanded L-3's authority to operate.[22/] Among other things, in November 2016, it expanded the frequency band in which L-3 is permitted to operate so that it now includes 20 GHz to 40 GHz. The Commission found that a waiver of Sections 15.31(c), 15.35(b) and 15.205(a) would not undermine the purposes of the rules, and that there was a stronger public interest benefit in granting the waiver than in applying the rules.[23/] It stated that "with appropriate operational and technical restrictions to prevent harmful interference to authorized services, granting L-3's request for waiver does not undermine the policy underlying [the] rules, *i.e.*, to prevent harmful interference to authorized services."[24/] The Commission concluded that "[w]eighing the strong public interest benefits associated with promoting improved security against the limited utility of the application of the rule to this case, we find the criteria has been met for granting a waiver of [the] rules to L-3 for its Next Gen ProVision device."[25/]

The Commission's rationale for granting a waiver to L-3 is equally applicable to Evolv's Edge system—they serve identical public safety functions and offer the same public interest benefits. Notably, the Edge operates at comparable power levels and on similar frequencies as

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22/ *See* 2016 Waiver Order at ¶ 1.

23/ *Id.* at ¶¶ 8-9.

24/ *Id.* at ¶ 9. The Commission also recognized that the waiver would permit ProVision to operate on frequency bands for which the Commission recently adopted rules to facilitate the deployment of 5G services. *See id.* at n.21 (citing *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd. 8014 (2016). Nevertheless, the Commission granted the waiver because under the general conditions of operation for unlicensed devices, in the event that the ProVision causes harmful interference to authorized services in those bands, it must cease operation until the harmful interference has been corrected. *Id.* (citing 47 C.F.R. § 15.5). While standards for 5G likely will not be developed for several more years, Evolv acknowledges its obligations under Section 15.5 to avoid causing harmful interference to authorized 5G operations.

25/ *Id.* at ¶ 9.

the L-3's ProVision technology.[26/] As further demonstrated below, the technical characteristics of the devices are substantially similar.

i. The Edge Device Has an Interference Profile Similar to the L-3 Device.

Like the approved L-3 devices, the Edge units will not cause harmful interference. The chart below demonstrates the similarities in the interference profiles of the two devices.

Equipment	**Peak Power (EIRP)**	**Duty Cycle Factor** (80 MHz BW)	**Swept Frequencies**	**Number of Transmitters**	**Shutter Period**
Evolv	+1.0 dBm	-26.92 dB	24.0 – 28.8 GHz	48 x 2 Apertures	0.007 sec
L-3	-0.3 dBm	-24.14 dB	20.0 – 40.0 GHz	192 x 2 Masts	1.3 sec

ii. A Waiver of Section 15.35(b) Would be Consistent with the Commission's 2016 Waiver Order.

The Commission authorized L-3 to operate its screening device at a radiated peak power up to 41 dB above the average emissions limit in Section 15.209(a).[27/] L-3 stated that it needed this waiver because it could not reduce power without "impairing its mission."[28/] According to L-3, "[i]n order to generate reconstructed data of sufficient quality to support future threat detection requirements, the system must be permitted to transmit with a peak level of -0.3 dBm EIRP."[29/] It explained that reducing peak power levels to comply with the Commission's rules

[26/] The 2016 Waiver Order allows ProVision to extend its operating frequencies from 24.25-30.0 GHz to 20.0-40.0 GHz and to operate at radiated peak power levels of no more than 41 dB above the average emissions limit in Section 15.209(a). 2016 Waiver Order at ¶ 13.

[27/] *Id.*

[28/] *See* Request for Waiver, L-3 Communications Security and Detection Systems, Inc., ET Docket No. 16-45, at 4 (filed Jan. 28, 2016) ("L-3 Waiver Request").

[29/] *Id.*

"would render the device unable to meet the resolution requirements for threat detection"[30/] Evolv encounters the same physics limitations as those stated in L-3's request.

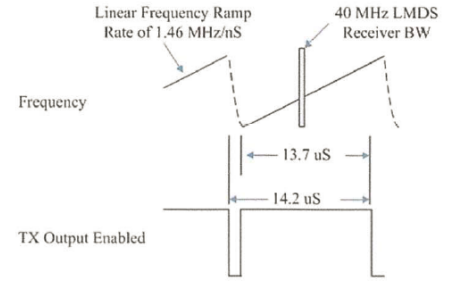
iii. A Waiver of Section 15.209(a) Would be Consistent with the Commission's 2016 Waiver Order.

With respect to Section 15.209(a), the Edge device is also similar to what the Commission approved in the 2016 Waiver Order. As stated in the Technical Statement attached to L-3's waiver request,[31/] and illustrated below for convenience, the L-3 duty cycle results in an average power which is -27.15 dB below the peak power, assuming a 40 megahertz victim bandwidth. With an 80 megahertz victim bandwidth, consistent with Evolv's 80 megahertz step size, the L-3 duty cycle factor would reduce to -24.14 dB.

30/ *Id.*

31/ *Id.* at Technical Statement, Figure 3 ("Duty Cycle Calculation for Example 40 MHz Bandwidth Receiver").

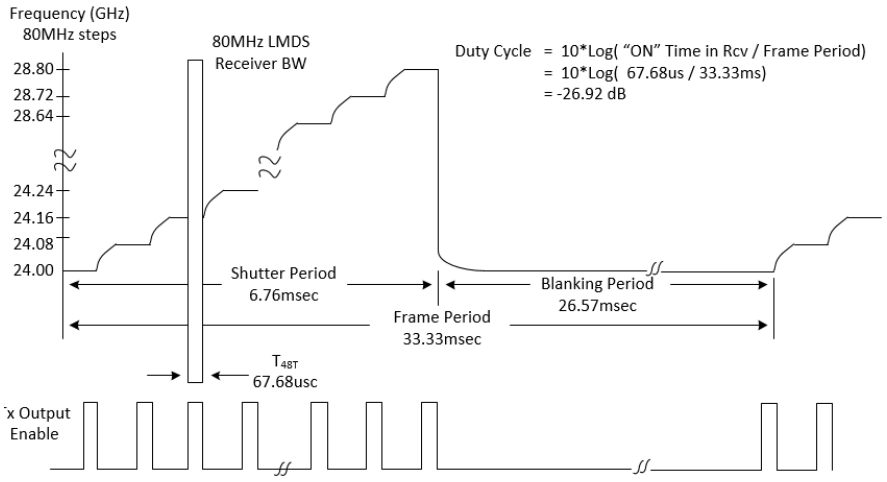
The duty cycle for the receiver bandwidth in the above interference analysis example was calculated as:



$$\text{Duty Cycle} = 10 * \text{LOG}\left(\frac{\text{Receiver BW}}{\text{Ramp Rate}} * \frac{1}{\text{Chirp Period}}\right)$$

$$\text{Duty Cycle} = 10 * \text{LOG}\left(\frac{40\,\text{MHz}}{1.46\,\text{MHz/ns}} * \frac{1}{14.2\,\text{uS}}\right) = -27.15\,\text{dB}$$

Evolv has a similar duty cycle reduction due to "ON" time vs. "OFF" time. This is illustrated in the figure below.



The Evolv frequency steps are 80 megahertz apart (example LMDS receiver BW), the T_{48T} "ON" time is 67.68usec, the frame period (T_{frame} or time back to same frequency) is 33.33ms, and the resulting duty cycle is -26.92 dB. This reduces the peak power by an additional 1.78 dB beyond what the Commission has already approved for L-3 when considering an 80 megahertz victim receiver. For comparison, the L-3 device (when considering an 80 megahertz bandwidth) has an effective average power of:

(-0.3 dBm EIRP peak – 24.14db) = -24.44 dBm EIRP average

Whereas the Evolv Edge has an effective average power of:

(+1.0 dBm EIRP peak – 26.92db) = -25.92 dBm EIRP average

Even though the average power is less than the L-3 device, it still exceeds the limits of the rule when measured in accordance with Section 15.31, and Evolv therefore believes a waiver is also required for Section 15.209(a).

L-3's ProVision devices have been on market for over a decade with no complaints of harmful interference.[32/] As noted above, Evolv has similarly conducted tests of the Edge without reports of harmful interference. The long-established victimless precedent of the ProVision technology and similar results in testing the Edge demonstrates that any potential risks of interference are low. Additionally, any such risks are further mitigated by Evolv's proposed waiver conditions, discussed below. Grant of the requested waiver is therefore consistent with the Commission's rules and precedent.

D. Proposed Waiver Conditions.

As explained above, the Edge is designed to limit the risk of harmful interference. Nevertheless, Evolv proposes two waiver conditions to alleviate any remaining interference concerns. *First*, Evolv offers to maintain a database of Edge installations to help identify the source of any potential interference. Evolv will share this database with the Commission and the National Telecommunications and Information Administration ("NTIA"). *Second*, Evolv will work with customers to reposition systems in the event of any interference.

32/ *See* L-3 Waiver Request at 4 ("Though thousands of scans are performed each day at most checkpoints, L-3 is unaware of any reports of harmful interference from use of the ProVision® devices.").

III. CONCLUSION

For the foregoing reasons, the Commission should grant Evolv's request for a waiver of Sections 15.35(b) and 15.209(a) of the rules. The Evolv Edge is a critical tool for use in protecting the American public against the threat of terrorism in many venues. The Edge presents no realistic possibility of interference to any spectrum user.

Respectfully submitted,

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